

Abstract

Filter and blower unit for breathing masks or bonnets

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10 In filter and blower units for breathing masks or bonnets
used in potentially explosive areas, the direct current
motor comprises a fixed stator coil module (1) and a
magnetic rotor that can be rotated around the perimeter
of said module and forms the impeller at the same time.
The coils (5), the terminals and electric connecting
lines (7) as well as upstream motor control and voltage
converter modules (8, 9) are embedded in a non-conductive
casting compound (6). Power is supplied from an
15 intrinsically safe accumulator or battery pack (15) at a
voltage that is still considered intrinsically safe using
a higher current value to match the required motor
output. The filter and blower unit is intrinsically safe
despite its high-performance rating and can be used in
20 zone "0" potentially explosive atmospheres.

List of reference symbols

	1	Stator coil module
5	2	Stator circuit board
	3	Bearing shell
	4	Coil core
	5	Coil
	6	Casting compound
10	7	Electric connecting lines
	8	Motor control module
	8a	Circuit board of 8
	9	Voltage converter module
	9a	Circuit board of 9
15	10	Base circuit board
	11	Pot-type case
	12	Magnetic rotor
	13	Shaft
	14	Blades
20	15	Power source (accumulator or battery pack)